The University of Texas-Rio Grande Valley  
College of Business and Entrepreneurship  
Syllabus for QUMT 2398: Decision Analytics

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**Course Title:** Decision Analytics  
**Course Number:** QUMT 2398 – 01  
**Instructor Name:** Ying Wang  
**Term:** Summer I 2019  
**UTRGV Email:** ying.wang01@utrgv.edu  
**Telephone:** 665-3353 (Dept.) or 665-7428 (office)  
**Meeting times:** 1:00 pm - 2:30 pm MTWRF  
**Meeting location:** EMAGC 2.406  
**Office location:** MAGC 3.222  
**Office Hours:** 2:30 – 3:00 pm MTWRF

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**Textbook and/or Resource Material**  
You can purchase the Software and eBook bundle in the bookstore. Alternatively, you can also acquire it directly from the publisher online ([link](#)). In either options, the software is hosted in the cloud and accessible on any computer/device that is connected to the Internet.

**Course Prerequisites**  
MATH 1340 or equivalent

**Course Description**  
In this course, students develop quantitative literacy by applying appropriate quantitative tools to analyses for decision-making in a variety of contexts. Students use mathematical and statistical techniques that are essential for all learning, both during and after the university experience. This course provides students with intellectual and practical proficiency in solving problems in a logical manner by examining the patterns and relationships of data available, then developing and carrying out the mathematical and logical algorithms required to arrive at optimal solutions. Students will complete hands-on activities and exercises in class, homework assignments, case analyses and discussions, and team projects to develop and apply their knowledge and skills

**Learning Objectives/Outcomes for the Course**  
Upon successful completion of this course, students will be able to:  
1. Understand various methods of logic and logical reasoning to determine which method is best to solve a given problem  
2. Critically evaluate potential sources of empirical data relevant to specific problems  
3. Translate descriptions of problems from various contexts into models, critically evaluate multiple alternatives, and select the best course of action  
4. Understand mathematical and statistical principles available for real-world problem-solving  
5. Develop oral and written communication skills by formulating and analyzing various decision scenarios and interpreting the results

**Learning Objectives for Core Curriculum Requirements**  
This course satisfies 3 hours of the credit requirement in the General Education Core #090-Integrative/Experiential Learning Option. Courses in this category involve interdisciplinary topics or approaches and/or learning through direct experience. This course is explicitly designed as integrative, in that students will be taught how to bring quantitative analysis techniques and critical judgment to solve problems and achieve goals in their own majors, classes, and career development. It is experiential, in that student experiences in university and career development activities are the source materials for all of analysis projects in QUMT 2398. The ‘reference’ area for this course is Mathematics, which requires Critical Thinking, Communication, and Empirical and Quantitative Skills.
Student Learning Objectives for this area include:

- **Critical Thinking** – For this objective, students are to demonstrate comprehension of a variety of information sources by analyzing and evaluating the logic, validity, and relevance of the information available to solve challenging problems, to arrive at well-reasoned conclusions, and to develop and explore new questions. For QUMT 2398, students will be required to collect and evaluate data in both quantitative and written form, making judgments about its truthfulness, timeliness, reliability, and usefulness for the decision-making goal. Students will exercise critical judgment about the empirical data, the mathematical and statistical principles to be applied, interpretation of the results, and the validity of decisions reached thereby.

- **Communication** - For this objective, students are to demonstrate the ability to adapt their communications to a particular context, audience, and purpose using language, genre conventions, and sources appropriate to a specific discipline and/or communication task. In QUMT 2398, students will have multiple activities in which they present the reasoning and results of their analyses in clear, concise form.

- **Empirical and Quantitative skills** - For this objective, students are to make and communicate informed conclusions and predictions based on the interpretation, manipulation, and analysis of empirical and quantitative data. In QUMT 2398 students learn to apply mathematical and statistical tools on real-life problem contexts. Students will carry out empirical data collection, using their critical judgment about data from many potential sources. They will use the patterns and relationships of the relevant data to create their own algorithms for generating optimal solutions.

Robert C. Vackar College of Business and Entrepreneurship Learning Goals and Mission

<table>
<thead>
<tr>
<th>BBA Learning Goals</th>
<th>This course contributes to the following College of Business and Entrepreneurship learning goals:</th>
<th>How measured</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demonstrate foundational knowledge of functional area concepts and theories.</td>
<td>☑</td>
<td>Quizzes</td>
</tr>
<tr>
<td>Demonstrate effective business communication skills.</td>
<td>☑</td>
<td>class discussions and regression project</td>
</tr>
<tr>
<td>Apply sustainable practices (economic, social and ethical, and environmental) to business decision-making.</td>
<td>☐</td>
<td></td>
</tr>
<tr>
<td>Demonstrate an understanding of how globalization, including conditions on the US-Mexico border, shape effective business decision making.</td>
<td>☐</td>
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<tr>
<td>Apply quantitative analytical skills to business decision-making.</td>
<td>☑</td>
<td>homework assignments</td>
</tr>
<tr>
<td>Demonstrate the ability to critically analyze business issues.</td>
<td>☑</td>
<td>Hands-on projects</td>
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</tbody>
</table>

Our mission is to be the agent of innovation, knowledge discovery, and economic development in South Texas, Northern Mexico, and beyond, by offering a rigorous curriculum informed by experiential learning, high quality research, and community partnerships. Your mastery of these learning goals and objectives help us to achieve this mission.
Grading Policies

- Hawkes learning assignments .........................................................................................................................300 points
- Attendance and participation ..........................................................................................................................100 points
- 4 Mini projects ....................................................................................................................................................200 points
- Regression Project ..............................................................................................................................................150 points
- Tests (100 x3) .....................................................................................................................................................300 points

1050 points

Grading scale: you can estimate your grade anytime using the Grade Calculator on Blackboard.

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Grade</th>
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<tbody>
<tr>
<td>90 % and above</td>
<td>A</td>
</tr>
<tr>
<td>80% up to 90%</td>
<td>B</td>
</tr>
<tr>
<td>70% up to 80%</td>
<td>C</td>
</tr>
<tr>
<td>60% up to 70%</td>
<td>D</td>
</tr>
<tr>
<td>Below 60%</td>
<td>F (Fail)</td>
</tr>
</tbody>
</table>

Missed/Makeup Exams
Prior arrangements must be made with the instructor, whenever possible. This arrangement will only be given to students who are able to produce an official document within a reasonable time (within 7 days) period. Examples of official documents are medical reports, accident or traffic violations, and other unforeseen circumstances. Official documents should be written in English. All non-United States documents must be authenticated and verified.

Late Assignments
It is essential that assignments be completed and submitted on time. Late penalty will apply for the late submission. Athletic events and routine or pre-planned company assignments are not acceptable excuses for late work. Affected students should arrange for their assignments to be submitted prior to the deadline given.

<table>
<thead>
<tr>
<th>Day after the due date</th>
<th>HL assignments Late penalty</th>
<th>Projects</th>
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<tbody>
<tr>
<td>1-3 days</td>
<td>0%</td>
<td>5%</td>
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<tr>
<td>4-7 days</td>
<td>10%</td>
<td>10%</td>
</tr>
<tr>
<td>8 or more days</td>
<td>20%</td>
<td>Not Accept</td>
</tr>
</tbody>
</table>

Calendar of Activities
Include in this section a table or list that provides information for students regarding important dates, assignments or activities. The UTRGV academic calendar can be found at https://my.utrgv.edu/home at the bottom of the screen, prior to login. Some important dates for spring 2019 include:

- Jun. 3 (Mon.) Summer I classes begin
- Jun. 4 (Tues.) Last day to withdraw (drop all classes) and receive an 80% refund
- Jun. 6 (Thurs.) Last day to add a class or register for Summer I classes
- Jun. 6 (Thurs.) Last day to withdraw (drop all Summer I classes) and receive a 50% refund
- Jun. 27 (Thurs.) Census Day (last day to drop without it appearing on the transcript)
- July 4 (Thurs.) Independence Day. No classes.
- July 8 (Mon.) Study Day. No classes.
- July 9 (Tues.) Final Exams; Official last day of the Summer I term
UTRGV Policy Statements

STUDENTS WITH DISABILITIES:

Students with a documented disability (physical, psychological, learning, or other disability which affects academic performance) who would like to receive academic accommodations should contact Student Accessibility Services (SAS) as soon as possible to schedule an appointment to initiate services. Accommodations can be arranged through SAS at any time, but are not retroactive. Students who suffer a broken bone, severe injury or undergo surgery during the semester are eligible for temporary services.

Pregnancy, Pregnancy-related, and Parenting Accommodations

Title IX of the Education Amendments of 1972 prohibits sex discrimination, which includes discrimination based on pregnancy, marital status, or parental status. Students seeking accommodations related to pregnancy, pregnancy-related condition, or parenting (reasonably immediate postpartum period) are encouraged to contact Student Accessibility Services for additional information and to request accommodations.

Student Accessibility Services:

Brownsville Campus: Student Accessibility Services is located in Cortez Hall Room 129 and can be contacted by phone at (956) 882-7374 (Voice) or via email at ability@utrgv.edu. Edinburg Campus: Student Accessibility Services is located in 108 University Center and can be contacted by phone at (956) 665-7005 (Voice), (956) 665-3840 (Fax), or via email at ability@utrgv.edu.

MANDATORY COURSE EVALUATION PERIOD: Required on all syllabi. Do not modify.

Students are required to complete an ONLINE evaluation of this course, accessed through your UTRGV account (http://my.utrgv.edu); you will be contacted through email with further instructions. Students who complete their evaluations will have priority access to their grades. Online evaluations will be available on April 10 – May 1.

ATTENDANCE:

Students are expected to attend all scheduled classes and may be dropped from the course for excessive absences (more than 3 classes). UTRGV's attendance policy excuses students from attending class if they are participating in officially sponsored university activities, such as athletics; for observance of religious holy days; or for military service. Students should contact the instructor in advance of the excused absence and arrange to make up missed work or examinations.

Students arriving late or leaving early will be recorded as tardy. Every two tardy records will count as an absence. Students with excessive tardiness (6 or more) may be dropped from the course.

SCHOLASTIC INTEGRITY:

As members of a community dedicated to Honesty, Integrity and Respect, students are reminded that those who engage in scholastic dishonesty are subject to disciplinary penalties, including the possibility of failure in the course and expulsion from the University. Scholastic dishonesty includes but is not limited to: cheating, plagiarism (including self-plagiarism), and collusion; submission for credit of any work or materials that are attributable in whole or in part to another person; taking an examination for another person; any act designed to give unfair advantage to a student; or the attempt to commit such acts. Since scholastic dishonesty harms the individual, all students and the integrity of the University, policies on scholastic dishonesty will be strictly enforced (Board of Regents Rules and Regulations and UTRGV Academic Integrity Guidelines). All scholastic dishonesty incidents will be reported to the Dean of Students.

SEXUAL HARASSMENT, DISCRIMINATION, and VIOLENCE:

In accordance with UT System regulations, your instructor is a “Responsible Employee” for reporting purposes under Title IX regulations and so must report any instance, occurring during a student’s time in college, of sexual
assault, stalking, dating violence, domestic violence, or sexual harassment about which she/he becomes aware during this course through writing, discussion, or personal disclosure. More information can be found at [www.utrgv.edu/equity](http://www.utrgv.edu/equity), including confidential resources available on campus. The faculty and staff of UTRGV actively strive to provide a learning, working, and living environment that promotes personal integrity, civility, and mutual respect that is free from sexual misconduct and discrimination.

**COURSE DROPS:**
According to UTRGV policy, students may drop any class without penalty earning a grade of DR until the official drop date. Following that date, students must be assigned a letter grade and can no longer drop the class. Students considering dropping the class should be aware of the “3-peat rule” and the “6-drop” rule so they can recognize how dropped classes may affect their academic success. The 6-drop rule refers to Texas law that dictates that undergraduate students may not drop more than six courses during their undergraduate career. Courses dropped at other Texas public higher education institutions will count toward the six-course drop limit. The 3-peat rule refers to additional fees charged to students who take the same class for the third time.

**STUDENT SERVICES:**
Students who demonstrate financial need have a variety of options when it comes to paying for college costs, such as scholarships, grants, loans and work-study. Students should visit the Students Services Center (U Central) for additional information. U Central is located in BMAIN 1.100 (Brownsville) or ESSBL 1.145 (Edinburg) or can be reached by email (ucentral@utrgv.edu) or telephone: (888) 882-4026. In addition to financial aid, U Central can assist students with registration and admissions.

Students seeking academic help in their studies can use university resources in addition to an instructor’s office hours. University Resources include the Learning Center, Writing Center, Advising Center and Career Center. The centers provide services such as tutoring, writing help, critical thinking, study skills, degree planning, and student employment. Locations are:

- Learning center: BSTUN 2.10 (Brownsville) or ELCTR 100 (Edinburg)
- Writing center: BLIBR 3.206 (Brownsville) or ESTAC 3.119 (Edinburg)
- Advising center: BMAIN 1.400 (Brownsville) or ESWKH 101 (Edinburg)
- Career center: BCRTZ 129 (Brownsville) or ESSBL 2.101 (Edinburg)
<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Topic</th>
<th>Reading</th>
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<tbody>
<tr>
<td><strong>Week 1</strong></td>
<td>3-Jun</td>
<td>Introduction to Decision Analytics</td>
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<tr>
<td></td>
<td>4-Jun</td>
<td>Thinking Mathematically: Inductive and deductive reasoning</td>
<td>Ch 1.1</td>
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<td></td>
<td>5-Jun</td>
<td>Estimating and Evaluating</td>
<td>Ch 1.2-1.3</td>
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<td></td>
<td>6-Jun</td>
<td>Logic Statements and Their Negations</td>
<td>Ch 3.1</td>
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<td>7-Jun</td>
<td><strong>Mini Project 1</strong></td>
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<tr>
<td><strong>Week 2</strong></td>
<td>10-Jun</td>
<td>Truth Tables for Evaluating Logic Statements</td>
<td>Ch 3.2</td>
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<td></td>
<td>11-Jun</td>
<td><strong>Mini Project 2</strong></td>
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<td></td>
<td>12-Jun</td>
<td><strong>Mini Project 2 (continue)</strong></td>
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<td></td>
<td>13-Jun</td>
<td><strong>Exam 1 (Chapter 1 &amp; 3)</strong></td>
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<td></td>
<td>14-Jun</td>
<td>Rates, Rates and Ratios</td>
<td>Ch 4.1 &amp; 4.2</td>
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<tr>
<td><strong>Week 3</strong></td>
<td>17-Jun</td>
<td>Proportions and Percentages</td>
<td>Ch 4.3 &amp; 4.4</td>
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<td>18-Jun</td>
<td><strong>Mini Project 3</strong></td>
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<td></td>
<td>19-Jun</td>
<td>The Language of Functions</td>
<td>Ch 5.1 &amp; 5.2</td>
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<td>20-Jun</td>
<td><strong>Exam 2 (Chapter 4 &amp; 5)</strong></td>
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<td></td>
<td>21-Jun</td>
<td>Collecting Data &amp; Displaying Data</td>
<td>Ch 8.1 &amp; 8.2</td>
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<tr>
<td><strong>Week 4</strong></td>
<td>24-Jun</td>
<td>Linear Regression</td>
<td>Ch 8.5</td>
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<td>25-Jun</td>
<td><strong>Regression Project (P4) - Data Collection</strong></td>
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<td>26-Jun</td>
<td>P4_Data Analysis using Regress IT</td>
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<td></td>
<td>27-Jun</td>
<td>P4_Regression result explanation</td>
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<td>28-Jun</td>
<td>P4 - Presentation</td>
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<tr>
<td><strong>Week 5</strong></td>
<td>1-Jul</td>
<td>Understanding Personal Finance</td>
<td>Ch 9.1</td>
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<td></td>
<td>2-Jul</td>
<td>Understanding Interest</td>
<td>Ch 9.2</td>
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<td></td>
<td>3-Jul</td>
<td><strong>Independence Day. No classes.</strong></td>
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<td></td>
<td>4-Jul</td>
<td><strong>Mini Project 5</strong></td>
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<tr>
<td></td>
<td>5-Jul</td>
<td><strong>Exam 3 (Chapter 8 &amp; 9)</strong></td>
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<tr>
<td><strong>Week 6</strong></td>
<td>8-Jul</td>
<td>Study Day. No classes.</td>
<td></td>
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<td></td>
<td>9-Jul</td>
<td>Final Exams; Official last day of the Summer I term</td>
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</tbody>
</table>

*This syllabus and schedule are subject to change in the event of extenuating circumstances.*
Student Directions – Web based

Important Information
Course ID: UTRGVVMc
Instructor Name: Ying Wang
Section Name: QUQT-2398-01-SummerI2019

Attn:
1. Please use your UTRGV email to register a Hakes Learning account, and make sure that your name is consistent with your UTRGV Profile.
2. You may request a temporary access code first, which is good for 2 weeks, and purchase the software access code later.

Do NOT purchase a used License Number or Access Code (from other students or online vendors). License Numbers and Access Codes are registered to the original purchaser only.

Create Your Hawkes Account
Go to learn.hawkeslearning.com and click Create an Account to create an account.

1. If you have already purchased your materials, enter your License Number (located on the yellow sticker in your materials) or Access Code and click Validate. OR If you need to purchase an Access Code, use the link to purchase one from the Hawkes website.
   a. Select the option to Purchase an Access Code.
   b. Fill out the form with your information.
   c. Click Submit to receive your personalized Access Code.
   d. Copy and paste or type your Access Code into the New User Setup page.

2. Fill out the form with your information or confirm the preloaded information.

3. Set your password, time zone, and security questions.

4. Add a profile image.

Enroll in Your Course
Select your instructor and section from the drop-down menus and click Enroll.
You are now ready to complete assignments for this course!

Explore Your Course
Watch the Video Tour located under the profile menu to learn more about Hawkes.

1. The Dashboard includes your course information and the mini To-Do List.
2. The To-Do List shows you when you need to complete homework or take a test.
3. The Navigation Toolbar contains links to important tools such as your grades, eBooks, the notifications center, and messages.
Complete Your Homework
Each lesson involves three phases: Learn, Practice, and Certify. Use Learn and Practice to learn the concepts and work out practice problems. When you feel confident in the material, move to Certify to complete your homework.
For additional help, go to http://www.hawkestv.com to watch videos on every lesson.

Get Help
If you have any questions about registering your email address and password, enrolling in your course, or using the site, please contact Hawkes Technical Support.

Phone: 800.426.9538
Phone Hours: Monday - Friday, 8:30am - 10:00pm ET

Online Chat Support: http://www.hawkeslearning.com/chat
Chat Hours: 24 hours a day, 7 days a week

Technical Support Email: support@hawkeslearning.com